2017

SYRACUSE UNIVERSITY

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[CSE 788: COMPUTER AIDED DESIGN]

Assignment #4

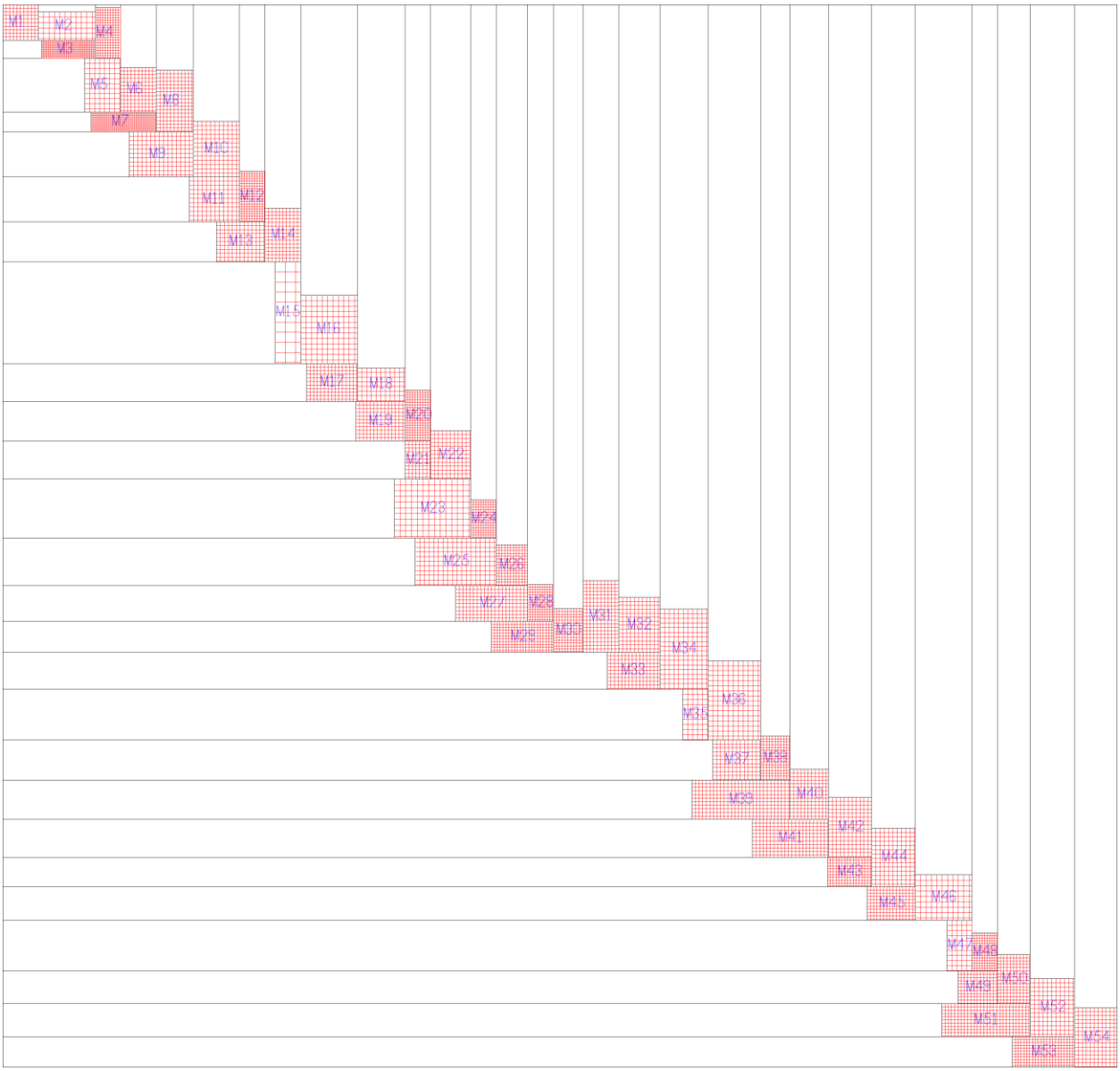
1. Initial

Used alternate “+” and “*” so as to have a large starting cost.

Initial Polish Expression: 1 2 * 3 + 4 * 5 + 6 * 7 + 8 * 9 + 10 * 11 + 12 * 13 + 14 * 15 + 16 * 17 + 18 * 1 9 + 20 * 21 + 22 * 23 + 24 * 25 + 26 * 27 + 28 * 29 + 30 * 31 * 32 * 33 + 34 * 3 5 + 36 * 37 + 38 * 39 + 40 * 41 + 42 * 43 + 44 * 45 + 46 * 47 + 48 * 49 + 50 * 5 1 + 52 * 53 + 54 *

Initial Cost: 3684.761

Initial Floorplan:



2. Final

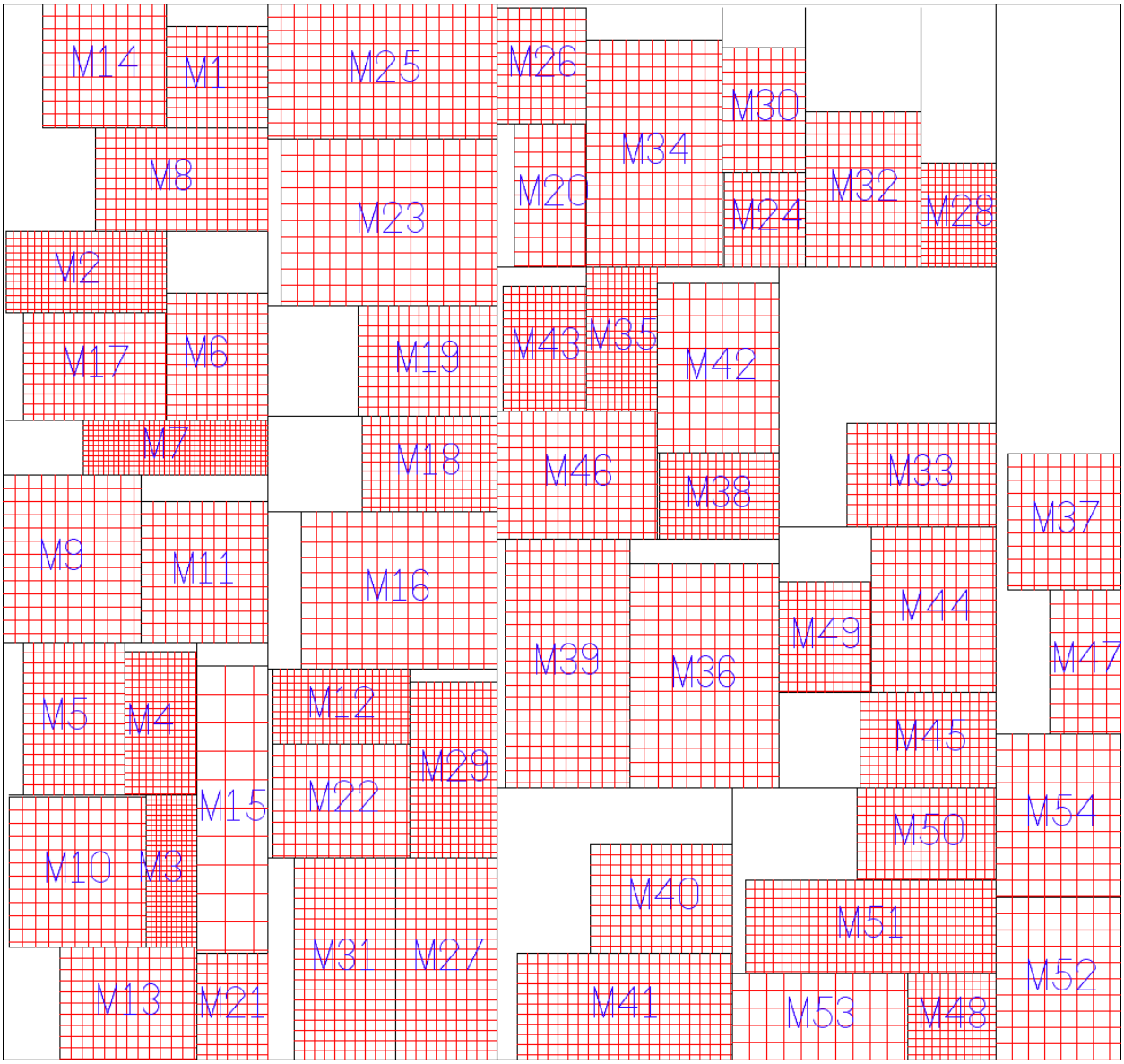
Frozen Temperature = 0.5

Temperature Decrease Ratio = 0.85

Final Polish Expression: 14 1 * 8 + 2 17 + 6 * + 7 + 9 11 * + 5 4 * 10 3 * + 13 + 15 21 + * + 25 23 + 19 + 18 + 16 + 12 22 + 29 * + 31 27 * + * 26 20 + 34 * 30 24 + * 32 * 28 * 43 35 * 46 + 42 38 + * 39 36 * + 33 49 44 * + 45 + * + 40 41 + 50 51 + 53 48 * + * + * 3 7 47 + 54 + 52 + *

Final Cost: 460.796

Final Floorplan:

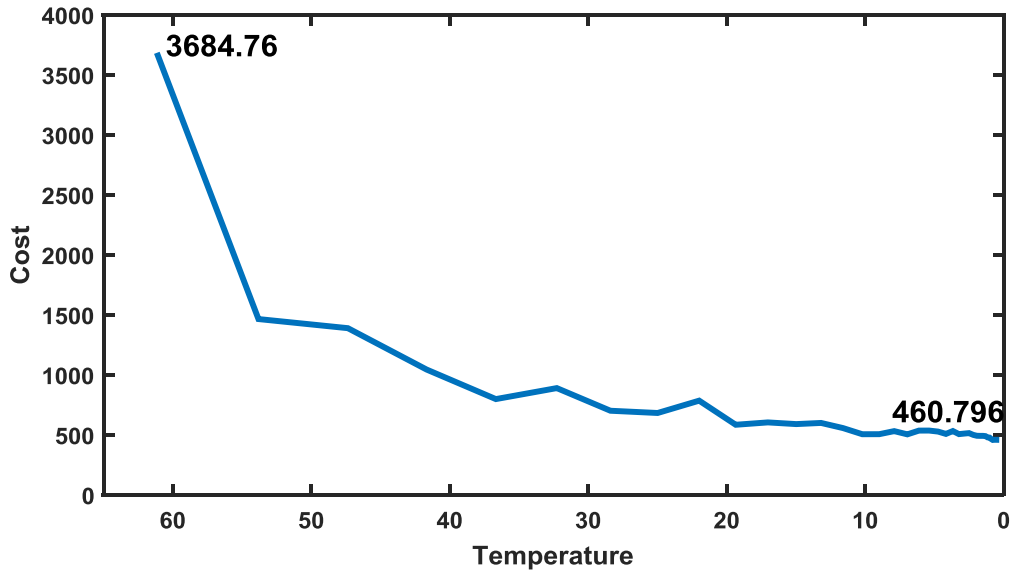


Final shape of all the modules:

Module#	A	r	s	S2	h	w
1	4	1	1	1	2	2
2	5	0.5	0.5	1	1.58114	3.16228
3	3	3	3	2	3	1
4	4	2	2	2	2.82843	1.41421
5	6	1.5	1.5	1	3	2
6	5	0.8	0.8	2	2.5	2
7	4	0.3	0.3	1	1.09545	3.65148
8	7	0.6	0.6	2	2.04939	3.41565
9	9	0.7	1.3	2	3.30078	2.72663
10	8	0.8	1.2	1	2.96511	2.69805
11	7	0.9	0.9	2	2.78887	2.50998
12	4	0.5	2	1	1.48865	2.68701
13	6	1.2	1.2	2	2.23607	2.68328
14	6	1	1.5	1	2.44949	2.44949
15	8	4	4	1	5.65685	1.41421
16	12	0.8	1.2	1	3.09839	3.87298
17	6	0.75	0.75	2	2.12132	2.82843
18	5	0.7	0.7	1	1.87083	2.67261
19	6	0.8	0.8	1	2.19089	2.73861
20	4	2	2	1	2.82843	1.41421
21	3	1.5	1.5	1	2.12132	1.41421
22	6	0.9	1.2	2	2.23607	2.68328
23	14	1	1.3	2	3.28165	4.26615
24	3	1	1.5	2	1.86926	1.60492
25	12	1.7	1.7	2	2.65684	4.51664
26	4	1	1.3	2	2.28035	1.75412
27	8	2	2	2	4	2
28	3	1	1.4	2	2.04939	1.46385
29	6	2	2	2	3.4641	1.73205
30	4	1	1.5	1	2.44949	1.63299
31	8	1	2	2	4	2
32	7	0.75	0.75	2	3.05505	2.29129
33	6	0.7	0.7	1	2.04939	2.9277
34	12	0.6	1	2	4.47214	2.68328
35	4	2	2	1	2.82843	1.41421
36	13	1.5	1.5	2	4.41588	2.94392
37	6	1.2	1.2	2	2.68328	2.23607
38	4	1	1.5	2	1.69521	2.35959

39	12	2	2.5	2	4.89898	2.44949
40	6	1.3	1.3	2	2.14834	2.79285
41	9	2	2	2	2.12132	4.24264
42	8	1	1.4	2	3.34664	2.39046
43	4	1	1.5	2	2.44949	1.63299
44	8	0.75	0.75	2	3.26599	2.44949
45	5	0.7	0.7	1	1.87083	2.67261
46	8	0.8	0.8	1	2.52982	3.16228
47	4	2	2	1	2.82843	1.41421
48	3	1	1.5	1	1.73205	1.73205
49	4	1.2	1.2	2	2.19089	1.82574
50	5	1	1.5	2	1.82574	2.73861
51	9	2.7	2.7	2	1.82574	4.9295
52	8	1	1.3	2	3.2249	2.48069
53	6	2	2	2	1.73205	3.4641
54	8	1	1.4	2	3.22834	2.47805

Cost vs Temperature:



Temperature	Cost
61.157	3684.76
53.8181	1466.85
47.36	1390.83
41.6768	1046.23
36.6756	800.063
32.2745	891.644
28.4015	702.938
24.9934	684.221
21.9942	786.991
19.3549	586.142
17.0323	605.759
14.9884	591.692
13.1898	601.297
11.607	558.522
10.2142	507.31
8.98848	507.693
7.90986	533.18
6.96068	506.245
6.12539	537.494
5.39035	537.779
4.74351	529.323
4.17429	509.835
3.67337	533.818
3.23257	508.112
2.84466	512.739
2.5033	516.54
2.2029	501.816
1.93856	494.353
1.70593	493.631
1.50122	493.724
1.32107	491.487
1.16254	481.041
1.02304	479.13
0.900273	467.364
0.79224	459.701
0.697171	460.731
0.613511	460.909
0.539889	460.796